

**AMENDMENTS TO THE CLAIMS:**

This listing of claims will replace all prior versions, and listings, of claims in the application:

Claims 1-19. Canceled.

20. (Currently Amended) A device for monitoring ~~fluctuations in an opaque body by~~  
categorising scattering characteristics of said opaque body at microwave frequencies, the said  
device comprising:

- (a) at least one low power microwave emitter for locating adjacent ~~the said~~ opaque body;
- (b) a microwave detector for detecting fluctuations in ~~the said~~ scattering characteristics from said opaque body; and
- (c) a signal processing means for analysing said fluctuations from ~~the said opaque body~~  
~~so as to thereby derive characteristics about said body~~ to calculate scattering parameters for  
providing a measure indicative of said fluctuations in said scattering characteristics.

21. (Previously Presented) A device as claimed in claim 20 wherein said emitter and detector are formed as one unit.

22. (Currently Amended) A device as claimed in claim 20 wherein said ~~opaque body~~ comprises a ~~human body~~ and said signal processing means ~~extracts a heart rate from said~~ fluctuations is set to provide a measure indicative of a heart rate of said human body.

23. (Currently Amended) A device as claimed in claim 20 wherein said ~~opaque body~~ comprises a ~~human body~~ and said signal processing means ~~extracts a respiration rate from said~~ fluctuations is set to provide a measure indicative of a respiration rate of a human body.

24. (Currently Amended) A device as claimed in claim ~~20-23~~ wherein said device is portable and is configured to be located near the a chest of the a human body.

25. (Currently Amended) A method of monitoring ~~fluctuations in the density of an~~ opaque body by categorising scattering characteristics of said opaque body at microwave frequencies, the method comprising the steps of:

- (a) locating a low power microwave emitter adjacent said opaque body;
- (b) monitoring ~~the scattering properties~~ characteristics of said opaque body so as to produce a monitor signal; and
- (c) ~~utilising fluctuations in said monitor signal over time to infer fluctuations~~ in said opaque body processing said monitor signal over time to calculate scattering parameters for said opaque body derived from fluctuations in said monitor signal.

26. (Currently Amended) A method as claimed in claim 25 ~~wherein said body comprises a human body~~ said processing includes calculating two-port scattering parameters  $s_{11}$ ,  $s_{12}$ ,  $s_{21}$ , and  $s_{22}$  for analyzing said fluctuations in said monitor signal.

27. (Currently Amended) A method as claimed in claim ~~26~~ 25 wherein said fluctuations include alterations in ~~the~~ a blood flow rate ~~within the~~ for a human body.

28. (Currently Amended) A method as claimed in claim 25 wherein said fluctuations include alterations in ~~the~~ a respiration rate ~~in the~~ for a human body.

29. (Currently Amended) A method as claimed in claim 25 wherein said low power microwave emitter is configured to be located adjacent ~~the~~ a chest of ~~the~~ a human body.

30. (Currently Amended) A method as claimed in claim 25 wherein said low power microwave emitter includes ~~two antennas, one for output and one for input~~ at least one output antenna and at least one input antenna.

31. (Previously Presented) A method as claimed in claim 25 wherein said low power microwave emitter includes only one antenna.

32. (Currently Amended) A remote monitoring system for monitoring a series of patients at remote locations, said monitoring ~~systems~~system comprising:

(a) ~~a series~~a plurality of portable monitoring ~~devices~~ according to claim 20 for monitoring a human body by categorizing scattering characteristics of said opaque body at microwave frequencies, each of said device further including units for monitoring fluctuations in a human, the monitoring units including at least one low power microwave emitter for locating adjacent the human body, a microwave detector for detecting in the scattering characteristics from the human body; a signal processing means for analysing said fluctuations in the power so as to thereby derive characteristics about said body, and a wireless communications interface for communication characteristics about said body communicating said measure with a spatially separated base station;

(b) ~~a series of~~one or more base stations, each further interconnected with an information distribution network, wherein said base stations are adapted to receive ~~receiving~~ said ~~characteristics measure~~ from at least one of said portable monitoring units and forwarding them said measure to a centralised computing and storage resource;

(c) a centralised computing and storage resource for receiving, storing and monitoring said ~~characteristics~~measure.

33. (Currently Amended) A system as claimed in claim 32 wherein said system further includes analysis means for analysing said ~~characteristics measure~~ for identifying predetermined behaviours and raising a notification alarm upon the occurrence of said predetermined behaviours.

34. (New) A device as claimed in claim 20 wherein said signal processing means is adapted to calculate two-port scattering parameters  $s_{11}$ ,  $s_{12}$ ,  $s_{21}$ , and  $s_{22}$  for analysing said fluctuations in said scattering characteristics.

35. (New) A device as claimed in claim 20 wherein said fluctuations are indicative of the density of said opaque body.

36. (New) A device as claimed in claim 20 wherein said low power microwave emitter includes at least one output antenna and said microwave detector includes at least one input antenna.